

DOW CORNING(R) TC-5121 THERMALLY
CONDUCTIVE COMPOUND

Version 1.3 Revision Date: 2015/10/06 SDS Number: 773796-00004 Date of last issue: 2015/06/29
Date of first issue: 2014/11/18

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : DOW CORNING(R) TC-5121 THERMALLY CONDUCTIVE
COMPOUND

Product code : 000000000004060820, 000000000004060820

Chemical nature : Silicone compound

Manufacturer or supplier's details

Company : Dow Corning Taiwan Inc.

Address : 10F, No. 246, Sec.1, Nei Hu Road, Nei Hu District
Taipei, Taiwan 11493

Telephone : 886-2-66003100

Emergency telephone number : 886-2-66003144

Telefax : 886-2-66003199

Recommended use of the chemical and restrictions on use

Recommended use : Electrical industry and electronics

2. HAZARDS IDENTIFICATION**GHS Classification**

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical Name	CAS-No.	Concentration (% w/w)
Decamethyltetrasiloxane	141-62-8	>= 1 - < 10

4. FIRST AID MEASURES

First aid measures for different exposure routes

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If inhaled	: If inhaled, remove to fresh air. Get medical attention if symptoms occur.
In case of skin contact	: Wash with water and soap as a precaution. Get medical attention if symptoms occur.
In case of eye contact	: Flush eyes with water as a precaution. Get medical attention if irritation develops and persists.
If swallowed	: If swallowed, DO NOT induce vomiting. Get medical attention if symptoms occur. Rinse mouth thoroughly with water.
Most important symptoms and effects, both acute and delayed	: None known.
Protection of first-aiders	: No special precautions are necessary for first aid responders.
Notes to physician	: Treat symptomatically and supportively.

5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Water spray Alcohol-resistant foam Carbon dioxide (CO ₂) Dry chemical
Unsuitable extinguishing media	: None known.
Specific hazards during fire-fighting	: Exposure to combustion products may be a hazard to health.
Hazardous combustion products	: Carbon oxides Silicon oxides Formaldehyde Metal oxides
Specific extinguishing methods	: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.
Special protective equipment for firefighters	: Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

6. ACCIDENTAL RELEASE MEASURES

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- Personal precautions, protective equipment and emergency procedures : Follow safe handling advice and personal protective equipment recommendations.
- Environmental precautions : Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.
- Methods and materials for containment and cleaning up : Soak up with inert absorbent material. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbent. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

7. HANDLING AND STORAGE

Handling

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Local/Total ventilation : Use only with adequate ventilation.
- Advice on safe handling : Handle in accordance with good industrial hygiene and safety practice. Take care to prevent spills, waste and minimize release to the environment.

Storage

- Conditions for safe storage : Keep in properly labelled containers. Store in accordance with the particular national regulations.
- Materials to avoid : Do not store with the following product types:
Strong oxidizing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis

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Decamethyltetrasiloxane	141-62-8	TWA	200 ppm	DCC OEL
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Engineering measures : Processing may form hazardous compounds (see section 10).
Ensure adequate ventilation, especially in confined areas.
Minimize workplace exposure concentrations.

Personal protective equipment

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Filter type : Organic vapour type

Hand protection

Remarks : Wash hands before breaks and at the end of workday.

Eye protection : Wear the following personal protective equipment:
Safety glasses

Skin and body protection : Skin should be washed after contact.

Hygiene measures : Ensure that eye flushing systems and safety showers are located close to the working place.
When using do not eat, drink or smoke.
Wash contaminated clothing before re-use.
These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Grease

Colour : grey

Odour : none

Odour Threshold : No data available

pH : Not applicable

Melting point/freezing point : No data available

Initial boiling point and boiling range : Not applicable

Flash point : > 100 °C
Method: Seta closed cup

Evaporation rate : Not applicable

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Flammability (solid, gas)	:	Not classified as a flammability hazard
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	Not applicable
Relative vapour density	:	No data available
Relative density	:	4.20
Solubility(ies)	:	
Water solubility	:	No data available
Partition coefficient: n- octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity	:	
Viscosity, dynamic	:	Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Molecular weight	:	No data available

10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reac- tions	:	Use at elevated temperatures may form highly hazardous compounds. Can react with strong oxidizing agents. Hazardous decomposition products will be formed at elevated temperatures.
Conditions to avoid	:	None known.
Incompatible materials	:	Oxidizing agents
Hazardous decomposition products	:	
Thermal decomposition	:	Formaldehyde

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11. TOXICOLOGICAL INFORMATION

Exposure routes : Skin contact
Ingestion
Eye contact

Symptoms of Overexposure : None known.

Acute toxicity

Not classified based on available information.

Components:**Decamethyltetrasiloxane:**

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on test data

Skin corrosion/irritation

Not classified based on available information.

Components:**Decamethyltetrasiloxane:**

Species: Rabbit
Result: No skin irritation
Remarks: Based on test data

Serious eye damage/eye irritation

Not classified based on available information.

Components:**Decamethyltetrasiloxane:**

Species: Rabbit
Result: No eye irritation
Remarks: Based on test data

Respiratory or skin sensitisation

Skin sensitisation: Not classified based on available information.
Respiratory sensitisation: Not classified based on available information.

Components:**Decamethyltetrasiloxane:**

Assessment: Does not cause skin sensitisation.

Test Type: Human repeat insult patch test (HRIPT)

Remarks: No known sensitising effect.

Based on test data

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Chronic toxicity**Germ cell mutagenicity**

Not classified based on available information.

Components:**Decamethyltetrasiloxane:**

- Genotoxicity in vitro
- : Test Type: Chromosome aberration test in vitro
Result: negative
Remarks: Based on test data
 - : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: Based on test data
 - : Test Type: Mutagenicity (in vitro mammalian cytogenetic test)
Result: negative
Remarks: Based on test data

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

Components:**Decamethyltetrasiloxane:**

- Effects on fertility
- : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat, male and female
Application Route: inhalation (vapour)
Symptoms: No effects on fertility
Remarks: Based on test data
 - : Test Type: Uterotrophic assay
Species: Rat, female
Application Route: inhalation (vapour)
Result: negative
Remarks: Based on test data
- Effects on foetal development
- : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat, male and female
Application Route: inhalation (vapour)
Symptoms: No effects on foetal development
Remarks: Based on test data
- Reproductive toxicity - Assessment
- : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

STOT - single exposure

Not classified based on available information.

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STOT - repeated exposure

Not classified based on available information.

Components:**Decamethyltetrasiloxane:**

Exposure routes: Ingestion

Assessment: No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

Exposure routes: inhalation (vapour)

Assessment: No significant health effects observed in animals at concentrations of 1 mg/l/6h/d or less.

Repeated dose toxicity**Components:****Decamethyltetrasiloxane:**

Species: Rat

Application Route: Ingestion

Remarks: Based on test data

Species: Rat

Application Route: inhalation (vapour)

Remarks: Based on test data

Aspiration toxicity

Not classified based on available information.

Further information**Components:****Decamethyltetrasiloxane:**

Remarks: This material contains decamethyltetrasiloxane (L4). Repeated oral exposure in rats to L4 resulted in protoporphyrin accumulation in the liver. Without knowledge of the specific mechanism leading to the protoporphyrin accumulation the relevance of this finding to humans is unknown.

12. ECOLOGICAL INFORMATION**Ecotoxicity****Product:**

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h

Components:**Decamethyltetrasiloxane:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 6.3 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

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Remarks: No toxicity at the limit of solubility

Toxicity to bacteria : EC50: > 100 mg/l
Method: OECD Test Guideline 209Ecotoxicology Assessment
Chronic aquatic toxicity : This product has no known ecotoxicological effects.**Persistence and degradability****Components:****Decamethyltetrasiloxane:**Stability in water : Degradation half life: 728 h pH: 7
Method: OECD Test Guideline 111
Remarks: Based on test data**Bioaccumulative potential****Components:****Decamethyltetrasiloxane:**Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): >= 500
Method: OECD Test Guideline 305
Remarks: Does not biomagnify along the food chain.Partition coefficient: n-
octanol/water : log Pow: > 8
Remarks: Based on test data**Mobility in soil**

No data available

Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues : Dispose of in accordance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
If not otherwise specified: Dispose of as unused product.

14. TRANSPORT INFORMATION**International Regulation****UNRTDG**

Not regulated as a dangerous good

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IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Special precautions for user

Not applicable

15. REGULATORY INFORMATION**National regulatory information**

Regulations on Labelling and Hazard Communication of Hazardous Chemicals
Regulations on Occupational Safety and Health Facilities
Standards for the Storage, Cleanup, Handling and Disposal of Industrial Waste

The components of this product are reported in the following inventories:

KECI	: All ingredients listed, exempt or notified.
AICS	: Consult your local Dow Corning office.
REACH	: All ingredients (pre-)registered or exempt.
IECSC	: All ingredients listed or exempt.
ENCS/ISHL	: Consult your local Dow Corning office.
DSL	: This product contains one or more substances which are not on the Canadian Domestic Substances List (DSL). Import of this product into Canada has volume limitations. For volume limits please consult Dow Corning Regulatory Compliance.
TSCA	: All chemical substances in this material are included on or exempted from listing on the Toxic Substances Control Act 8(b) Inventory. One or more chemical substances in this material meet the polymer exemption criteria in 40 CFR 723.250.
PICCS	: All ingredients listed or exempt.
NZIoC	: All ingredients listed or exempt.

16. OTHER INFORMATION**Further information**

Sources of key data used to compile the Safety Data Sheet	: Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/
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SAFETY DATA SHEET

DOW CORNING

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Responsible Department : Dow Corning Taiwan Inc.
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Tel: 886-2-66003100

Prepared by : Title: Manager
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Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

Date format : yyyy/mm/dd

Full text of other abbreviations

DCC OEL : Dow Corning Guide
DCC OEL / TWA : Time weighted average

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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